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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/992,319 12/17/97 ECKHOUSE

S 78841/181

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QM12/0902

EXAMINER

GIBSON, R

ART UNIT

PAPER NUMBER

3739

DATE MAILED:

09/02/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**08/992,319**

Applicant(s)  
**Eckhouse**

Examiner  
**Roy Gibson**

Group Art Unit  
**3739**



☒ Responsive to communication(s) filed on Dec 17, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 45-84 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☒ Claim(s) 70-79 is/are allowed.

☒ Claim(s) 45-54, 56-65, 67, 69, 80-82, and 84 is/are rejected.

☒ Claim(s) 55, 66, 68, and 83 is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Claim Rejections - 35 U.S.C. § 112***

Claims 49, 53, 63 and 69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 49, 53, and 69, it is unclear what "proximal to the patient's skin" means. The Examiner suggests changing this to "proximate the patient's skin".

Claim 63 recites the limitation "said incoherent light" in line 12. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 45-50, 63-65, 67, and 80-81 are rejected under 35 U.S.C. 102(e) as being anticipated by Diamond (5,511,563).

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As to claims 45 and 63, Diamond discloses a device comprising:

a source of incoherent light (Figure 1, # 14) with a beam characterized by at least one optical parameter and a system for controlling the at least one optical parameter including energy density, and a light source housing (13) having an opening of large size such that the incoherent light beam is output to a large exposure area of the patient's skin (col. 6, lines 16-55).

As to claim 46, Diamond discloses the device does not include an optical fiber.

As to claim 47, Diamond discloses that the opening of the housing (exit aperture # 150) defines a shape of the incoherent light beam output (col. 6, lines 51-55).

As to claims 48 & 64, Diamond discloses that a device comprising a source of incoherent light (Figure 1, # 14) with a beam characterized by a combination of balanced optical parameter and a system for controlling the combination of the optical parameters, including light wavelength distribution (with filter # 22) and energy density (with variable power supply # 30), and a light source housing (13) having an opening of large size such that the incoherent light beam is output to a large exposure area of the patient's skin (col. 6, lines 16-55).

As to claim 49, Diamond discloses that the opening of the housing (150) is disposed near the patient's skin (Figure 1B).

As to claims 50 & 65, Diamond discloses that the light beam is output from the housing without use of an optical fiber.

As to claim 67, Diamond discloses that the device further includes a filter (22) disposed in the optical path of the light beam (col. 6, lines 51-56).

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As to claim 80, Diamond discloses a device comprising:

a housing containing an incoherent light source with a beam characterized by at least one optical parameter and a system for controlling the at least one optical parameter including a light wavelength distribution between about 640-800 nm (about 500-1000 nm): see col. 6, lines 16-56 and col. 7, lines 42-46).

As to claim 81, Diamond discloses the device does not include an optical fiber.

Claims 51, 53-54, 56-65, 67, 80-82 and 84 are rejected under 35 U.S.C. 102(b) as being anticipated by Diamond (5,337,741).

As to claims 51, 60, 62-64, 80 and 84, Diamond discloses a device comprising:

a source of light (Figure 1, # 14) with a beam characterized by a combination of balanced optical parameter; a housing for the light source (13) and having a mirror (20) disposed for collecting the light from the light source and the housing, the output light beam being provided without the use of an optical fiber, the housing further including a collimator (16) defining a large output area for the output beam; and a system for controlling the combination of the optical parameters, including light wavelength distribution (with filter # 24) and energy density (with variable power supply # 30 and potentiometer # 32, see Figure 1, col. 3, lines 11-27 & 46-63, and col. 4, lines 1-6 7 11-24).

As to claim 53, Diamond discloses the housing is disposed near the patient's skin (Figure 1).

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As to claims 54 and 61, Diamond discloses that the light wavelength comprises a range of about 640-800 nm (about 300-1000 nm, see col. 4, lines 18-24).

As to claims 56 and 82, Diamond discloses that the energy density is in the range of about 0-100 J/cm<sup>2</sup> (within 0.5 to 300 J/cm<sup>2</sup>, see col. 4, lines 11-17 and claim 4).

As to claims 58 and 67, Diamond discloses that the device further includes a filter (24) disposed in the optical path of the light beam (col. 3, lines 34-35 and 59-63).

As to claims 65 and 81, Diamond discloses that the light beam is output from the housing without use of an optical fiber (Figure 1).

### ***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond ('741). Diamond discloses an output aperture (Figure 1) but fails to disclose its dimensions. However, the Examiner maintains that it would have been obvious to one of ordinary skill in the art to select an aperture with a maximum length of about 5 cm to be able to treat such a large area of the skin at one time and that this dimension would be consistent with the treatment examples disclosed by

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Diamond. In addition, the 5 cm dimension would be a design choice based on the intensity of the setting for the light source and the desired final energy density at the skin.

*Allowable Subject Matter*

Claims 70-79 are allowed.

Claim 69 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action.

Claims 55, 66, 68 and 83 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

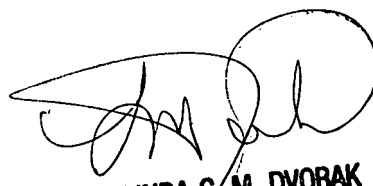
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zarate et al. ('531) disclose an illuminator for PDT which includes a light source, reflector, mirror, etc, but lack a collimator and restricts the output wavelength to 600-700 nm; Whitehurst ('143) discloses a light source for biological treatment but the output is designed to be via an optical fiber; and Mutzhas ('005) discloses a radiation apparatus for photobiological applications but is limited to the ultraviolet region.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy Gibson whose telephone number is (703) 308-3520. The examiner can normally be reached on Monday-Friday from 9 am - 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Linda Dvorak, can be reached on (703) 308-0994. The fax phone number for this Group is (703) 305-3590.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0858.



LINDA C. M. DVORAK  
SUPERVISORY PATENT EXAMINER  
GROUP 3700



RDG

August 24, 1999